Amendments to the Claims

Please amend the claims as indicated below.

Claim 1 (currently amended) An electronic fingerprint apparatus for a machine, comprising:

an automation component comprising: a controller for controlling movements of at least one component of the machine, the automation component adapted for capturing electronic fingerprints representative of a state of the machine and for determining which measurements of the machine will result in capturing electronic fingerprints representative of a state of the machine;

the automation component further comprising a fingerprint device for selecting for measurement at least one type of movement of the machine from a plurality of different types of movements of the machine to generate an electronic fingerprint that is representative of a condition of the machine,

wherein the fingerprint device ~~determines~~ selects the at least one type of movement of the machine for measurement based on its determination of which plurality of movements, when measured, will reveal the electronic fingerprint that is representative of the condition of the machine.

Claim 2 (original) The apparatus of claim 1, wherein the automation component is selected from the group consisting of a numeric control, a motion controller, a programmable logic controller or an intelligent drive.

Claim 3 (original) The apparatus of claim 1, wherein the automation component and a corresponding engineering system provide a program platform for the implementation of electronic fingerprints by an application engineer.

Claim 4 (original) The apparatus of claim 1, further comprising an engineering system corresponding to the automation component, wherein implementation of the fingerprints is done by at least one of a configuration process in the engineering system and a programming process using a specific API for the implementation of fingerprints.

Claim 5 (original) The apparatus of claim 1, wherein the start of capturing the fingerprints is done by an action selected from the group consisting of: starting by local user via local HMI; starting by remote user via Ethernet / Internet; and starting based on an event evaluated in an application program running in the automation component.

Claim 6 (original) The apparatus of claim 1, wherein the apparatus is used for a machine selected from the group consisting of: machine tools, packaging machines, a rubber-working machines; plastic-working machines; printing presses; woodworking machines; glassmaking machines; ceramic-working machines; stoneworking machines; textile machines; robotic manufacturing machines and materials handling machines.

Claim 7 (original) The apparatus of claim 1, wherein the fingerprint device and the automation component generate an electronic fingerprint that is generic to a type of machine tool that indicates a stable behavior of the machine tool.

Claim 8 (original) The apparatus of claim 2, wherein the fingerprint device and the automation component generate an electronic fingerprint having a deviation from the stable behavior, thereby indicating an unstable behavior of the machine.

Claim 9 (original) The apparatus of claim 1, wherein the fingerprint device and the automation component generates a specific fingerprint for a particular production machine that is representative of a state of at least one the outputs of the particular production machine and the stable behavior of the machine.

Claim 10 (original) The apparatus of claim 1, further comprising a graphical user interface for displaying a graphical depiction of the electronic fingerprint.

Claim 11 (original) The apparatus of claim 1, wherein the fingerprint device is adapted for generating a periodic electronic fingerprint that is developed from a snap shot of the state of the machine at a certain time.

Claim 12 (original) The apparatus of claim 6, further comprising an application for comparing the electronic fingerprints over time.

Claim 13 (original) The apparatus of claim 6, further comprising a memory for storing the electronic fingerprints as a database.

Claim 14 (original) The apparatus of claim 1, further comprising a maintenance scheduler for scheduling maintenance of the machine based on a prediction of a failure of the machine based on the electronic fingerprint.

Claim 15 (original) The apparatus of claim 1, further comprising a remote communication capability that couples the machine to a remote processor.

Claim 16 (original) The apparatus of claim 10, wherein the electronic fingerprint is downloaded over the remote communication to the remote processor.

Claim 17 (currently amended) In an automation component comprising a controller for controlling movements of at least one component of a machine, a method for generating electronic fingerprints of the machine, the method comprising the steps of:

~~determining~~ selecting, with the automation component, a set of parameters for measurement from a plurality of parameters that will uniquely identify a condition of the machine, the set of parameters associated with the at least one component of the machine and the plurality of parameters corresponding to different types of movement of the at least one component of the machine;

reading the selected set of parameters; and

storing the read parameters in storage coupled to the automation component, thereby creating an electronic fingerprint representative of the condition of the machine.

Claim 18 (original) The method of claim 17, wherein the step of selecting selects parameters that at a time when the machine is in a stable state to generate thereby a generic type of electronic fingerprint that indicates a stable behavior.

Claim 19 (original) The method of claim 18, wherein the step of selecting selects parameters having a deviation from the stable behavior, thereby generating an electronic fingerprint indicating an unstable behavior of the machine.

Claim 20 (original) The method of claim 17, wherein the step of selecting selects parameters from a particular production machine that is representative of a state of an output of the particular production machine,

Claim 21 (original) The method of claim 17, further comprising the step of generating a graphical depiction of the electronic fingerprint.

Claim 22 (original) The method of claim 17, further comprising the step of comparing the electronic fingerprints over time,

Claim 23 (original) The method of claim 17, further comprising the step of scheduling maintenance based on the electronic fingerprint.

Claim 24 (original) The method of claim 17, further comprising the step of remotely coupling the machine to a remote processor.

Claim 25 (currently amended) A computer readable program product having encoded therein instructions for driving a computer processor of an automation component comprising a controller for controlling movements of at least one component of a machine according to the steps of:

~~determining~~ selecting, with the automation component, a set of parameters for measurement from a plurality of parameters that will uniquely identify a condition of the machine, the set of parameters associated with the at least one component of the machine and the plurality of parameters corresponding to different types of movement of the at least one component of the machine;

reading the selected set of parameters; and

storing the read parameters in storage coupled to the automation component, thereby creating an electronic fingerprint representative of the condition of the machine.